

Social Determinants of Health

Definition: The social determinants of health include factors in individuals, families, and communities that influence rates of morbidity and mortality. Examples are income, education, occupation, family structure, service availability, sanitation, exposure to hazards, social support, racial discrimination, and access to resources linked to health.

Summary

Social circumstances in childhood and adulthood affect individual health outcomes. The social and cultural environment can increase both exposures and susceptibility to disease, injury, and other adverse outcomes, resulting in differences in disease and mortality rates among different socioeconomic groups.

Introduction

Despite major improvements in life expectancy during this century, especially in industrialized countries, differences in health status exist between countries and among socioeconomic groups within countries. Improving the health of all people requires an understanding of the causes of these differences.

The determinants of individual health include genetic predisposition, physiological characteristics, lifestyle choices, exposure to hazardous substances, and many other factors. The social and physical environments in which people live also influence health outcomes. Social characteristics of those environments—income, education, occupation, family structure, service availability, and many others not as readily measured—are referred to in this section as the social determinants of health.

Multiple theories attempt to explain the relationship between socioeconomic status and health. A scientific understanding of the relative importance of different factors as underlying causes of disparities in health among socioeconomic groups is elusive.

As will be discussed in more detail throughout this section, researchers in this area are confronted with methodological problems (such as the difficulties separating the influences of individual behaviors from those of the social structure in which we live) which limit our ability to understand the underlying relationships and

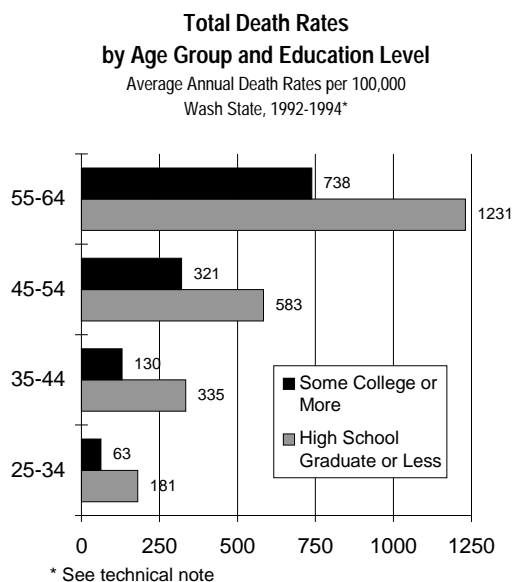
interpret the results. However, developing a better understanding of the social determinants of health—and, more importantly, what we can do to affect them—may be critical in reaching our goal of improved health status for all Washington residents.

The Relationship between Health and Social Factors

Researchers in the US and western Europe have found that higher mortality rates are associated with lower socioeconomic status (SES), whether measured as education, income, occupation, or composites of these factors. In addition, between 1960 and 1986, the disparity in US mortality rates, based on socioeconomic status, increased despite an overall decline in death rates for all socioeconomic groups.¹

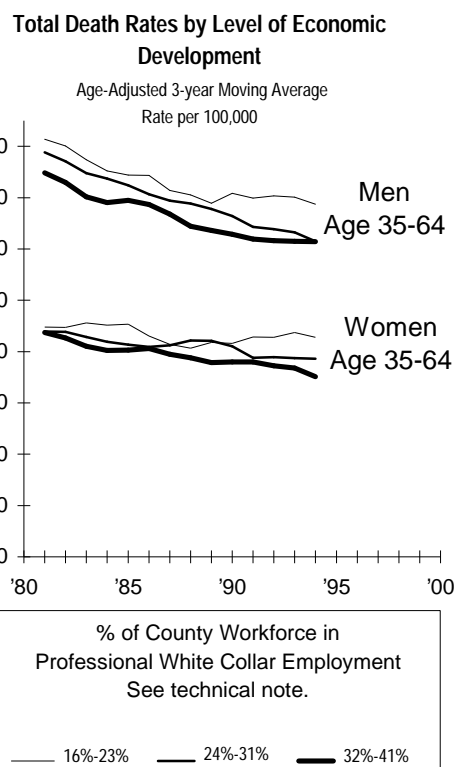
British researchers have noted that individuals in the lowest-ranked (British occupational classification system) occupations have the highest morbidity and mortality rates, and health outcomes improve gradually with gradual improvement in occupational rank. This pattern indicates that poverty is not the only factor accounting for this phenomenon, because the effect is seen across a range of SES groups, from the lowest to the highest. It may also give an indication of the potential for improvement in health outcomes that could come from improvements in socioeconomic factors.²

The following charts illustrate the relationship between socioeconomic factors and mortality in Washington. The first chart shows that people with a high school education or less had higher death rates than people who had at least some formal education beyond high school. This was true in all age groups examined. The reason for this association is not known.



The next chart shows increased mortality rates in Washington counties with relatively smaller proportions of the work force in professional white collar jobs, including executive, administrative, professional specialty, and technicians and related support positions. Counties in Washington were classified into three categories according to the percentage of professional white collar workers in the work force. Counties in the category with the highest percentages of white collar workers, 32%-41%, had the lowest all-causes mortality rates. Counties in the category with the fewest white collar workers had the highest mortality rates.

One possible explanation for these differences is that counties with smaller proportions of the work force in professional white collar occupations tend to have fewer per capita physical fitness facilities, child care services, medical and dental facilities, and jobs training and employment services. They are also more rural. The association between socioeconomic factors and mortality rates between counties is consistent with that found in studies of individuals. However, as noted earlier, the relative roles of factors related to the social structure, such as those listed above, and of individual factors are not known.



Income Distribution

Some evidence from comparisons among industrialized countries suggests that overall health outcomes are related to the equality of income distribution, even more strongly than to the absolute levels of income, and do not appear to be only a consequence of differing levels of poverty.³ In one study comparing nine Western industrialized countries, equality of income distribution (the percent of disposable income received by least-well off 70% of families) was correlated with life expectancy, accounting for 73% of the variability in life expectancies. Countries in which there was more equal income distribution had longer life expectancies.⁴ Changes over time in income distribution were similarly associated with changes over time in life expectancy. Of course, countries that differed in equality of income distribution may have varied in other ways as well, which were not controlled in these studies.

In the US, the nature of economic development since the 1970s has resulted in the production of more low-wage jobs. There has been an increase in income inequality since the early

1980s.⁵ According to the above research, this trend would be expected to have adverse effects on health. The most adverse health effects are associated with the lowest socioeconomic conditions.

According to the US Census, the percent of Washington state children living in poverty grew from approximately 9.8% in 1969 to 11.2% in 1979 to 14.1% in 1989. Poverty levels for people of all ages in Washington during this time were 10.2% in 1969, 9.6% in 1979, and 11.0% in 1989. Although the poverty definition used for the 1979 and 1989 figures differs slightly from the one used for 1969, the increases in national poverty rates attributable this definitional change were minimal.⁶

Race

The Centers for Disease Control and Prevention asserts that “categories of race are primarily a reflection of sociological phenomena, and represent ‘the interaction of biological, cultural, socioeconomic, political, and legal determinants.’”⁷ Diseases that are linked to genetic differences between races (such as sickle-cell anemia in African-Americans) account for only a small fraction of racial disparities in morbidity and mortality.⁸

A 1985 report by the US Department of Health and Human Services⁹ documented that people of color—particularly African-Americans—suffer much higher rates of death from heart disease, stroke, diabetes, cancer, chemical dependency, homicide, unintentional injuries, and infant mortality than whites. Native Americans’ average life expectancy is six years less than that of non-Native Americans.⁷

A study in Washington State¹⁰ compared urban and rural Native Americans to urban African-Americans and urban whites. Infant mortality rates were highest among rural Native Americans during the period 1981-1990 compared to every other group; however, urban Native Americans showed the most dramatic increase in infant mortality during this period, increasing by more than 50%. Results indicated that many of the health indicators of Native Americans were similar to those of urban African-Americans, and generally indicated poorer health compared to urban whites.

A well-documented example of differences in morbidity and mortality related to race is that

related to high blood pressure: African-Americans demonstrate a two-to-threefold higher prevalence of high blood pressure when compared with whites, even after controlling for risk factors such as diet, alcohol, obesity, and their relationship to renal and cardiovascular physiology, as well as psychosocial factors, such as anger expression and social support. Although the reasons are not known, some researchers hypothesize that the experience of racial discrimination may play a role.⁸

It has also been suggested that racial discrimination may contribute to increased exposure to environmental toxins. Whether this is due to conscious design or mediated by factors such as lower property values is not clear from the literature, but it has been observed that hazardous waste sites in the United States are more likely to be located near communities with people of color, even after controlling for economic factors, and most studies comparing the importance of race and economic factors in siting of hazardous waste sites suggest that race is an even stronger predictor than socioeconomic status.¹¹ In addition, it has been observed that non-white and Hispanic workers are more likely to hold jobs in which they are exposed to environmental toxins and other safety hazards.¹² Again, whether this is due to systematic discrimination is not clear from the literature. Nonetheless, the end result is the same, with people of color being at greater risk of exposure to environmental toxins.

Geographic Distribution

There is considerable evidence for geographic differences in premature mortality. In the US, higher rates of premature mortality are often observed in rural compared with urban areas and in the South compared with regions outside of South. There is some evidence that higher rates of premature mortality are observed in counties with fewer economic resources and that geographic differences are partly explained by differences in the level of local economic development. The level of community economic development may affect the health of local populations through combined effects of limited availability of educational and occupational opportunities, recreational and exercise facilities, emergency and public health services, and other essential services such as employment and child care services.

Almost certainly, individual lifestyle factors also play a role.

Explanations for the Relationship Between SES and Health

Early theories about the relationship between SES and disease focused on overcrowding, poor housing, poor sanitation, and malnutrition. However, public health efforts, such as improved sanitation and working conditions and mass immunization, did not eliminate all SES differentials in health status. Possible explanations for the remaining SES differentials which have been suggested are described below.

Drift hypothesis. It has been suggested that the association between health status and SES is due to negative effects of health on SES. Although chronic illness prevents some individuals from obtaining or keeping jobs that would provide an adequate income (causing them to “drift” downward in socioeconomic status), current research indicates that this is not widespread enough to account for the relationship between SES and disease rates.³

Inadequate medical care. Inadequate use of medical services, especially preventive services, is often suggested as a cause of relatively poor health outcomes among lower SES groups. Federally funded programs to reduce financial barriers (such as Medicaid) have been successful in increasing health access for the poor but have not entirely eliminated disparities in health. Some research has suggested that this is because health care received by the poor is inferior in quality (that is, more likely to be provided by non-board-certified physicians) and that other factors, such as cultural differences, remain as barriers.⁷ Other research suggests that access to health care is not an important factor in socioeconomic disparities in health. At present, there is not a scientific consensus on this topic.¹³

Increased prevalence of risk factors. Several important risk factors for adverse health outcomes are more prevalent among lower compared to higher socioeconomic groups. For example, in Washington, adults with lower incomes and less education report more smoking and less physical activity than adults with higher incomes and education. (See Income and Education sections of Tobacco Use and Exposure and Physical Inactivity Chapters). Studies have shown lower consumption

of fruits and vegetables among lower SES groups. Poverty is related to obesity in women. When looking at the social determinants of health it is important to ask whether there is anything in the societal structure that leads to these differences.

It is also important to note that increased mortality among lower SES groups persists even after taking many of these risk factors into account. For example, a large study in Alameda County, California, with nine years of follow-up, found that persons residing in poor neighborhoods had a 30% increase in mortality, even when income, age, sex, race, smoking, alcohol consumption, sleep habits and physical activity were taken into account.¹⁴ The author’s conclusion was that a less advantageous socioeconomic environment has an effect on mortality independent of income or individual lifestyle factors.

High stress. Psychological stress is another route by which socioeconomic factors have been suggested to influence health. Examples of uncontrollable stressful events which more frequently affect members of lower SES groups include unemployment and living in poor communities where they are more likely to be witnesses or victims of violence, and living in a constant state of heightened vigilance. Stress affects the cardiovascular, endocrine, digestive, and immune systems.¹⁵ Experimental studies have shown that stressful events result in immunosuppression, and animal studies have suggested a causal chain linking uncontrollable stress to cancer in susceptible animals.¹⁶

Emerging Theories: A focus on exposure and susceptibility. The appearance of a particular health problem in an individual depends on a dynamic interaction between exposure to a harmful agent and susceptibility to the agent. (The agent may be, for example, a disease-causing organism, a toxic chemical, or a hazard in an occupational setting.) Understanding the causes of health problems requires understanding both exposure and susceptibility, separately and in relation to each other. The roles of social factors in influencing exposures and susceptibility are discussed below.

Factors Influencing Exposure

Differential exposure to toxins and carcinogens. As discussed above, members of lower SES groups are subject to environments

which put them at greater risk of exposure to toxins and carcinogens. For example, people living in older or dilapidated housing risk exposure to lead-based paints, which are especially hazardous for young children.¹⁷ Members of lower SES groups are also more likely to be employed in positions of manual labor, such as farm work, which result in increased risk of occupational injury or death, as well as increased risk of exposure to toxic or carcinogenic substances.¹² In addition, evidence indicates that low SES neighborhoods are more likely than middle or higher SES neighborhoods to be situated near toxic waste sites and other potential environmental hazards.¹¹

Increased exposure to alcohol and tobacco.

Compared with middle and upper income neighborhoods, low income neighborhoods may have more billboards advertising tobacco products¹⁸ and greater availability of alcohol.¹⁹ It is reasonable to expect that increased advertising and availability of harmful substances may be correlated with increased use of these substances by persons living or working nearby.

Factors Influencing Susceptibility

Differential access to resources linked to health. Research shows that members of lower SES groups may not have access to sufficiently nutritious foods, safe places to exercise, and other resources which result in improved health and well-being. For example, some research suggests that healthful foods are less abundant and more costly in low-income neighborhoods,²⁰ and the latest automobile safety features—such as passenger-side air bags—are often initially available only in newer and higher-priced cars.

Childhood influences. Research in England and Finland suggests that an individual's socioeconomic status in childhood can predict adult health outcomes, even after controlling for adult socioeconomic status. The reasons are not known.⁸

Education. Although education represents only one aspect of socioeconomic status, research consistently shows that there is a positive relationship between educational achievement and health.³ For example, public health advice to stop smoking has had more success among more highly educated persons.²¹ While some of the factors

related to this phenomenon have been discussed, the reasons for this need further examination.

Social support. Surveys consistently reveal that people of low SES have less access to supportive social relationships and stable community ties, compared to people of higher SES. Divorce rates are inversely related to SES, and half of all families living in poverty do not include both parents. Members of low SES groups who are married are less likely to report emotionally supportive spousal relationships. In addition, levels of church attendance and community organizational involvement are lower among lower SES groups.²² Individuals with social support recover more quickly from already-diagnosed illness, reduce their risk of mortality from specific diseases, and may have less likelihood of developing illness.¹⁶

Interventions to Reduce Disparities in Health Outcomes

One national goal in *Healthy People 2000* is to “reduce health disparities among Americans.”²³ To achieve this ambitious goal, we consider several potential interventions. However, since the relationships between socioeconomic status and health are complex and have their effects over several generations, it would be impossible to suggest with certainty that any one strategy alone would be successful.

Current public health approaches. For the past several decades, public health approaches have focused on individual behavior change strategies, access to health care, and community health promotion.

Individual behavior change strategies. Although informing people of healthful choices is an important public health function, it is unlikely, by itself, to significantly reduce inequalities in health status because knowledge is not necessarily reflected in behavior. There are many reasons why people in lower SES groups engage in high-risk behaviors or fail to engage in protective behaviors, and many of these reasons are not related to knowledge. For example, increased knowledge about the relationship between eating fruits and vegetables is not useful if those food items are not available at an affordable price.

Access to health care. While access to preventive care may decrease susceptibility to disease and access to medical treatment may

decrease adverse consequences of disease, the importance of this factor in explaining socioeconomic differentials in health remains unclear. In addition to removing financial barriers to health care, efforts to improve quality of care and address cultural barriers are important.

Community-level health promotion.

Community approaches intervene with broad segments of a community rather than individuals. The aim is to promote the adoption of healthy lifestyles by changing community norms and policies, and by modifying the environment to help people make healthy choices. Large-scale health promotion programs may not reduce disparities in health status among differing socioeconomic groups without development of programs specifically for low socioeconomic groups.²⁴ Some studies have demonstrated that large scale community prevention programs can influence the health of entire communities,²⁴ however, their ability to reduce the differential in health status associated with socioeconomic status remains unclear.

Additional approaches. While recent approaches to improving health have focused on changing individual behavior through direct services to individuals or indirectly by influencing community norms and health related policy, approaches involving community level changes aimed at reducing disparities in SES may be effective in reducing disparities in health outcomes among Washington's citizens. Some suggested approaches include increased investment in community development efforts, economic policy such as tax restructuring and employment, and reformed housing and education policy.²⁵

Community development. This approach is recognized by programs such as the World Health Organization's Healthy Cities project, in which public health workers have taken a leadership role in community empowerment and economic development.

Other possible efforts. The association between socioeconomic factors and health suggests that public health data may be useful in policy development in a variety of areas including economic, housing, and education. There is also a need for more definitive research clarifying the impact of social determinants on health status, the development of effective interventions which

impact these determinants, and the interaction of community and individual determinants.

Technical Notes:

These rates are approximate and are presented for illustrative purposes only. Denominator data (population by educational level) are available from US Census tapes for 1990 only. Therefore, 1990 denominators were used with 1992-1994 Washington state mortality data to estimate rates.

Endnotes:

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